

Preface

This quarterly publication provides archival reports on developments in programs managed by JPL's Office of Telecommunications and Data Acquisition (TDA). In space communications, radio navigation, radio science, and ground-based radio and radar astronomy, it reports on activities of the Deep Space Network (DSN) and its associated Ground Communications Facility (GCF) in planning, in supporting research and technology, in implementation, and in operations. Also included is TDA-funded activity at JPL on data and information systems and reimbursable DSN work performed for other space agencies through NASA. The preceding work is all performed for NASA's Office of Space Operations (OSO).

In geodynamics, the publication reports on the application of radio interferometry at microwave frequencies for geodynamic measurements. In the search for extraterrestrial intelligence (SETI), it reports on implementation and operations for searching the microwave spectrum. In solar system radar, it reports on the uses of the Goldstone solar system radar for scientific exploration of the planets, their rings and satellites, asteroids, and comets. These three programs are performed for NASA's Office of Space Science and Applications (OSSA).

Finally, tasks funded under the JPL Director's Discretionary Fund and the Caltech President's Fund which involve the TDA Office are included.

This and each succeeding issue of the TDA Progress Report will present material in some, but not necessarily all, of the following categories:

OSO Tasks

- DSN Advanced Systems
 - Tracking and Ground-Based Navigation
 - Communications, Spacecraft-Ground
 - Station Control and System Technology
 - Network Data Processing and Productivity
- DSN Systems Implementation
 - Capabilities for Existing Projects
 - Capabilities for New Projects
 - New Initiatives
 - Network Upgrade and Sustaining
- DSN Operations
 - Network Operations and Operations Support
 - Mission Interface and Support
 - TDA Program Management and Analysis
- GCF Implementation and Operations
- Data and Information Systems

OSSA Tasks:

- Search for Extraterrestrial Intelligence
- Geodynamics
 - Geodetic Instrument Development
 - Geodynamic Science
- Goldstone Solar System Radar

Discretionary Funded Tasks